POLYCHAETE FAUNA OF SOUTH AFRICA: PART 7
SPECIES FROM DEPTHS BETWEEN 1,000 AND 3,330 METRES WEST OF CAPE TOWN

By

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(With 3 figures in the text)

Contents

Introduction

At the request of Dr. F. H. Talbot of the South African Museum, the Director of the Division of Fisheries kindly allowed R.V. *Africana II* to make a series of deep-water trawls on the continental slope west of Cape Town during August 1959, and a further series during December. The 15-foot Agassiz trawl brought up rich hauls of fish and invertebrates, and I am grateful to Dr. Talbot for allowing me to examine the Polychaeta. I have taken the opportunity of describing in this paper not only Dr. Talbot's collection, but also material from the same area and depth range obtained by means of a 0·1m.^{2} van Veen grab operated from the University of Cape Town's research vessel, the *John D. Gilchrist*. As might be expected, the grab sample contained several small species which were absent from the trawl samples.

Details of the stations which contained Polychaeta are as follows:

Vessel	*Station*	*Date*	*Position*	*Depth* (m.)	*Bottom*
Africana II					
	A.189	25/8/59	33°50′S./17°21′E.	1098	Globigerina ooze
	A.190	25/8/59	33°26′S./16°33′E.	2269	,, ,,
	A.191	26/8/59	33°36′S./16°15′E.	2745	,, ,,
	A.193	27/8/59	33°49′S./16°30′E.	2745	,, ,,
	A.315	8/12/59	34°37′S./17°05′E.	2930	,, ,,
	A.316	8/12/59	34°42′S./16°54′E.	3203	,, ,,
	A.317	9/12/59	33°50′S./16°30′E.	2850	,, ,,
	A.318	9/12/59	33°52′S./16°51′E.	2520–2780	,, ,,
	A.319	9/12/59	34°05′S./16°58′E.	2700	,, ,,
	A.321	10/12/59	34°33′S./16°42′E.	3330	,, ,,
	A.322	10/12/59	34°36′S./17°00′E.	2745	,, ,,
J. D. Gilchrist					
WCD	73–75	8/10/60	34°25′S./17°36′E.	1240	gn. S.M.

Ann. S. Afr. Mus. **46** (14), 1963, 353–371, 3 figs.

These are not the first deep-water collections made in this area. In November 1921 the late Professor Gilchrist occupied several abyssal stations off Cape Town. The Polychaeta from these stations were described by McIntosh (1925). The total list of species recorded from depths exceeding 1,000 metres in this area is shown below.

Species	*McIntosh* 1925	*Present records*
Aphrodita alta Kbg.		×
Hermonia hystrix (Sav.)	×	
Laetmonice benthaliana McI.		×
= *L. filicornis* (McI. non Kbg.)	×	
Eunoe assimilis McI.	×	×
Eunoe macrophthalma McI.	×	
Harmothoe profunda n. sp.		×
Harmothoe sp.		×
Euphione elizabethae McI.	×	
Macellicephala mirabilis McI.	×	
Leanira hystricis Ehl.	×	×
Leanira tetragona (Oersted)		×
Nereis (**Neanthes**) **papillosa** n. sp.		×
Nephthys (*Aglaophamus*) *macroura* Schm.		×
Nephthys hystricis McI.		×
Nephthys paradoxa Malmgren		?
Hyalinoecia sp.		×
Lumbrineris brevicirra (Schm.)		×
Lumbrineris magalhaensis Kbg.		×
Paraonis gracilis oculata Hartman		×
Aricidea suecica simplex nov.		×
Prionospio steenstrupi Malmgren		×
Spiophanes soderstromi Hartman		×
Poecilochaetus serpens Allen		×
Notomastus latericeus Sars	×	
Maldanella fibrillata Chamberlin		×
Lumbriclymene minor Arwidsson		×
Phalacrostemma elegans Fauvel		×
Neosabellides elongatus (Ehl.)		?
Amphitrite cirrata Müller		×
Streblosoma abranchiata n. sp.		×
Streblosoma chilensis (McI.)		×
Terebellides stroemi Sars		×
Pista cristata (Müller)		×

The list includes 31 identified species of which 4 are new. A further 9 species are new records for South Africa; in fact only 4 of the 31 species listed are known to occur at depths less than 100 metres in South African seas. Many

of the others such as *Laetmonice benthaliana*, *Euphione elizabethae*, *Macellicephala mirabilis*, *Maldanella fibrillata* and *Phalacrostemma elegans* are abyssal species from such widely separated regions as the sub-Antarctic, the North Pacific, New Zealand, the Gulf of Panama and Madeira. This does not indicate any affinity between the faunas of these areas, merely that abyssal species are very widely distributed and poorly known. It also emphasizes the importance of indicating the depth when listing distribution records.

The study of this collection was facilitated by side-by-side comparisons with the rich collections housed in the British Museum. I wish to thank my many friends at the British Museum for their help while I worked there and the Oppenheimer Memorial Trust which financed my research.

The material described in this report has been deposited in the South African Museum, Cape Town, and the registration number of each species is given in the text.

Systematic Section

Family **Aphroditidae**
Sub-family **Hermoninae**

Genus Laetmonice Kinberg 1855

Both *L. filicornis* Kbg. and *L. producta* var. *benthaliana* McI. have been recorded from South Africa but the published descriptions do not indicate clearly the differences between them. Before the new material was identified specimens of *Laetmonice* in the British Museum were examined. The results are set out below.

Laetmonice filicornis Kinberg 1855 (type locality Sweden)

Material examined: British Museum specimen 1865 : 9 : 23 : 13 from Bohuslan, Sweden, and 1921 : 5 : 1 : 94–100 from the Shetland Islands.

The two samples are conspecific and the following description is based on the Bohuslan specimen. Length 30 mm. for 32 segments. Ommatophores not pigmented. Tentacular segment without purse-shaped lobes at the sides of the prostomium. 15 pairs of elytra. A felt present. Harpoon-setae numerous and much larger than the notopodial spines of cirrigerous feet. Ventrum covered with rounded papillae. Ventral cirri well developed, their tips reaching the bases of the inferior neurosetae.

Laetmonice producta Grube 1877 (type locality Kerguelen)

Material examined: British Museum specimens 1941 : 3 : 3 : 439–50 from Kerguelen.

Length 40–100 mm. for 42–46 setigers. Each ommatophore with a small eye-spot. Tentacular segment with a pair of purse-shaped lobes at the sides of the prostomium. 18 pairs of elytra. No felt. Harpoon-setae rare and the notopodial spines of cirrigerous feet as strong as those of elytrigerous feet. Ventrum covered with rounded papillae. Ventral cirri are well developed and reach the bases of the inferior neurosetae.

Laetmonice producta var. *wyvillei* McIntosh 1885

Material examined: British Museum type 1885 : 12 : 1 : 34 dredged off Prince Edward Island, and type 1885 : 12 : 1 : 35 from Challenger station 157 in the Antarctic.

The first is a specimen of *L. producta* differing from Kerguelen specimens only in the possession of smaller lobes on either side of the prostomium and indistinct eyes. All other characters agree. The second, chosen as the lectotype of *L. producta* var. *wyvillei*, may be described as follows:

Length 40 mm. for 42 segments. Ommatophores not pigmented. Tentacular segment without lobes at the sides of the prostomium. 18 pairs of elytra. Felt poorly developed. Harpoon-setae well developed and stronger than the notopodial spines of cirrigerous feet. Ventrum with a few papillae. Ventral cirri are small and do not reach the bases of the inferior neurosetae.

Laetmonice benthaliana McIntosh 1885

Material examined: Types of *L. producta* var. *benthaliana* in the British Museum numbered 1885 : 12 : 1 : 1 from Challenger station 147 off Prince Edward Island (lectotype). 1885 : 12 : 1 : 36 from Challenger station 244 in the Pacific. 1885 : 12 : 1 : 37 from Challenger station 241 in the North Pacific. Types of *L. producta* var. *willemoesi* in the British Museum numbered 1885 : 12 : 1 : 31 from Challenger station 169 off New Zealand. 1885 : 12 : 1 : 32 from Challenger station 146 off Prince Edward Island.

The lectotype measures 35 mm. for 32 segments. Ommatophores not pigmented. Tentacular segment without lobes at the sides of the prostomium. 15 pairs of elytra. Felt present but scanty (? lost). Harpoon-setae common and markedly larger than the notopodial spines of cirrigerous feet. Ventrum smooth. Ventral cirri are very small and do not reach the bases of the inferior neurosetae.

KEY TO *Laetmonice producta*, *producta wyvillei*, *filicornis* AND *benthaliana*

1. Body with 42 or more segments; 18 pairs of elytra 2
   Body with about 32 segments; 15 pairs of elytra 3
2. Purse-shaped lobes at the sides of the prostomium. No felt. Notopodial spines of cirrigerous feet as strong as those of elytrigerous feet .. .. *L. producta*
   No purse-shaped lobes. A scanty felt. Notopodial spines of cirrigerous feet weaker than those of elytrigerous feet .. .. *L. producta wyvillei*
3. Ventrum covered with rounded papillae. Tips of ventral cirri reach bases of inferior neurosetae .. .. *L. filicornis*
   Ventrum smooth or with a few papillae at the bases of the parapodia. Ventral cirri small and not reaching the base of the neurosetae .. .. *L. benthaliana*

RECORDS OF *Laetmonice* FROM SOUTH AFRICA

Laetmonice benthaliana McIntosh 1885

Laetmonice producta var. *benthaliana* McIntosh 1885, p. 45, pl. 8 figs. 4–5, pl. 4 fig. 12.

? *Laetmonice filicornis* McIntosh 1925, p. 20.

Records: Station A.191 (2) and A.193 (9)—S.A. Museum Register No. A.19778.

Station A.316 (15), A.317 (2), A.318 (2), A.319 (4) and A.322 (1)—Register No. A.19959.

Notes: This species seems to be one of the commonest polychaetes at abyssal depths west of Cape Town, and these South African specimens agree closely with the type described above. McIntosh (1925) recorded *L. filicornis* from five stations in this area and from 4–10 fathoms in Saldanha Bay. The only two specimens from this collection, which are now in the British Museum (numbers 1924 : 7 : 21 : 21–22) are *Hermonia hystrix*; possibly the missing specimens were *L. benthaliana*. At any rate the record of *L. filicornis* must be eliminated.

Laetmonice producta wyvillei McIntosh 1885

Laetmonice producta var. *wyvillei* McIntosh 1885, p. 44.
Laetmonice producta (*non* Grube) Day 1934, p. 18.

Notes: The two specimens recorded by me (Day, 1934) from deep dredgings off Portuguese East Africa have been re-examined. They are *L. producta wyvillei* with 18 pairs of elytra, a smooth ventral surface and very small ventral cirri.

Aphrodita alta Kinberg 1855

Aphrodita alta Kinberg 1857, p. 2, pl. 1 fig. 1 *a–g*. Day, 1960, p. 274.

Records: Station A.319 (1 juvenile)—S.A. Museum Register No. A.19964.

Sub-family **Polynoinae**

Harmothoe profunda n. sp.

(Fig. 1 *a–e*)

Records: Station A.193 (2)—S.A. Museum Register No. A.19780. Stations A.316 (2) and A.318 (1)—Register No. A.19960.

Description: The holotype from station A.193 is the only complete specimen. It is 16 mm. long for 33 segments. The dorsum is black or possibly purple when fresh but the elytra and parapodia are pale. The prostomium (fig. 1*a*) is bilobed with obvious frontal peaks and the anterior pair of eyes is large and half-way back on the sides of the head. The median antenna is missing and the laterals are small, about half as long as the prostomium, markedly tapered and obviously ventral in origin. The dorsal cirri are about as long as the neurosetae and like the antennae they are sparsely beset with long papillae.

The whole length of the body is covered with 15 pairs of elytra. Individual elytra (fig. 1*b*, *b'*) vary from rounded to broadly oval and each is densely covered with chitinous tubercles which increase gradually in size from the anterior to the posterior margin. The small anterior ones are bluntly conical, those near the centre are larger and stouter, and a few near the posterior margin are almost spherical. Some are smooth, others rugose and some even have small blunt projections. A few small soft papillae are to be found near the external margin and it might be said that the elytra are minutely fringed.

The notopodium is well developed (fig. 1*c*) and bears numerous sabre-shaped notosetae much stouter than the neurosetae. Each notoseta (fig. 1*d*, *d'*) bears numerous rows of strong serrations and has a short, flanged and bluntly pointed tip. The neuropodium is rather short with a triangular presetal lobe and rounded postsetal lip. The neurosetae (fig. 1*e*, e^1) have rather long blades with 15–20 rows of well-marked spinules. The tips are of normal length and bidentate, but the relative size of the two teeth varies. In superior setae the secondary tooth is not much smaller than the terminal one, but in the middle of the series the secondary tooth decreases and inferior setae have a strong terminal tooth and a weak secondary one, only half the length of the terminal.

There are many resemblances between this species and *H. exanthema* var. *bergstromi* Monro 1936 from the Magellan area. An examination of the type in the British Museum proved that the main difference is in the character of the tubercles on the elytra. In Monro's species there is a scattering of uniformly small, slightly curved conical tubercles and a few very large, soft, pedunculate vesicles but no intermediate forms. Moreover the antennae and cirri are more densely papillose, the notosetae have finer serrations and the neurosetae have longer naked tips and a smaller secondary tooth.

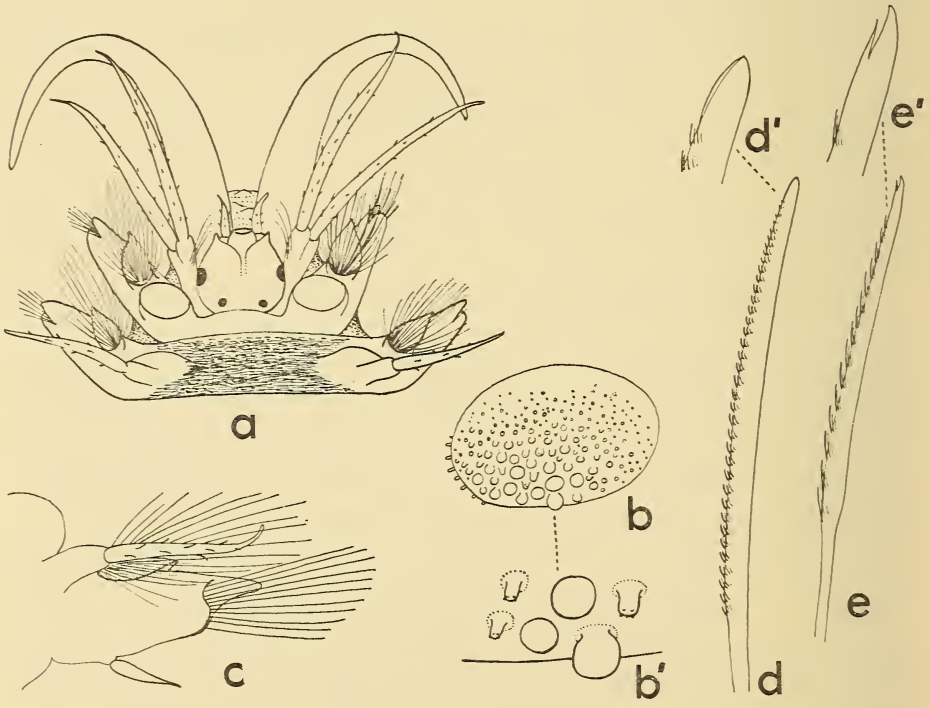

FIG. 1. *Harmothoe profunda*.

(*a*) Head. (*b*, *b'*) Elytron and details of marginal tubercles. (*c*) Parapodium. (*d*, *d'*) Notoseta and details of tip. (*e*, *e'*) Neuroseta and details of tip.

Harmothoe sp.

Records: Station A.190 (1)—S.A. Museum Register No. A.19771.

Notes: Although the specimen is too poorly preserved to give it a specific name it is obviously different from any other recorded from South Africa. The characters may be briefly summarized as follows. Antennae and cirri smooth. Elytra with minute conical tubercles anteriorly and 4–5 large cylindro-conical soft papillae on the external margin. Notosetae with small, close-set serrations and strongly flanged tips. Neurosetae with long, weakly spinulose blades and minutely bidentate or unidentate tips.

Eunoe assimilis McIntosh 1925

Eunoe assimilis McIntosh 1925, p. 21, pl. 2 figs. 1–2, pl. 3 fig. 3.

Records: Station A.193 (2)—S.A. Museum Register No. A.19782. Station A.316 (1)—Register No. A.19961. Station A.318 (1)—(doubtful identification) Register No. A.19962.

Description: McIntosh's original description is incomplete and a re-examination of the type in the British Museum and the discovery of a complete specimen with elytra allow me to give a summary of the diagnostic characters.

Body 20–30 mm. long with 36–37 segments, rather broad but tapered posteriorly. Body completely covered with 15 pairs of elytra. Colour generally pale, but the ventral cirri and outer margins of the elytra are tinged with purple.

Prostomium with small frontal peaks but without eyes. Median antenna three times the prostomial length; laterals ventral in origin and about 1·5 times the prostomial length. Antennae and cirri appear smooth but are really clad with short papillae. Dorsal cirri are tapered and reach the ends of the neurosetae. Elytra large and delicate with smooth margins; the surface is glabrous apart from a small patch of tiny rounded tubercles near the anterior margin.

Notosetae fairly numerous, each stout with close-set rows of weak serrations and a long, narrowly flanged and bluntly pointed tip. Neurosetae few and unidentate, the swollen blades having about 20 rows of short spinules and a long hooked and sharply pointed tip. There is no trace of a secondary tooth.

E. assimilis is close to *E. abyssorum* McIntosh 1885 dredged in 2,600 fathoms south of Australia. The type was examined in the British Museum. Like *E. assimilis* it lacks eyes and has papillose antennae and dorsal cirri. The elytra are missing. The setae are not markedly different, but the notosetae are more strongly serrated and the tips are quite smooth, not flanged. On the other hand each neuroseta does have a flange preceding the strong terminal tooth. *E. assimilis* may prove to be a synonym of *E. abyssorum*, but until the elytra of *E. abyssorum* are known the two should be kept separate.

Sub-family **Sigalioninae**

Leanira tetragona (Oersted, 1845)

Leanira tetragona (Oersted), Fauvel 1923, p. 117, fig. 43 *a–g*.

Records: Station A.189 (2)—S.A. Museum Register No. A.19768.

Notes: This is a new record for South Africa but although the specimens are in poor condition and lack elytra their other characters agree with specimens from northern Europe (the type locality is Norway). In particular the prostomium lacks eyes, the median antenna is long and unjointed with a pair of flaps at its base, there is a dorsal cirrus on setiger 3 and there are several slender stylodes on the parapodia; the notopodium has 5–7 and the neuropodium a series of 10–12. Cirriform branchiae appear on setiger 5 or 6, and 3 ciliated swellings or 'cupuliform branchiae' are present between the notopodium and the elytrophore. There are no simple setae in the neuropodia—all are compound with smooth or weakly serrated shaft-heads and laddered blades. It may be added that European specimens have a few delicate papillae on the external margins of the elytra, a character which distinguishes this species from *L. hystricis* and *L. incisa* which have both been recorded from southern Africa. Both of them also lack a dorsal cirrus on setiger 3.

Fauvel (1923) was doubtful of the presence of a dorsal cirrus on setiger 3 of any species of *Leanira*, but an examination of the types of *L. magellanica* McIntosh 1885, *L. areolata* McIntosh 1885 and *L. japonica* McIntosh 1885 shows that all three have a dorsal cirrus on setiger 3. A revision of the genus is necessary.

Leanira hystricis Ehlers 1874

Leanira hystricis Ehlers, Fauvel 1923, p. 118, fig. 43 *h–m*.
L. hystrix McIntosh 1925, p. 38.

Records: Stations A.315 (1), A.317 (4) and A.319 (1)—S.A. Museum Register No. A.19963. WCD 73 (1).

Notes: McIntosh's specimen in the British Museum agrees with the present material. There are no eyes, the median antenna lacks ctenidial flaps, there is no dorsal cirrus on setiger 3, and cirriform gills appear between the 24th and 30th foot. The stylodes are all sausage-shaped; there is one on the notopodium and 2–5 on the neuropodium. There are no simple neuropodial setae.

Family **Nereidae**

Nereis (*Neanthes*) *papillosa* n. sp.

(Fig. 2 *a–g*)

Records: Station A.191 (1)—S.A. Museum Register No. A.19779.

Description: The holotype is a complete specimen 25 mm. long with 58 segments. It is pale in alcohol without any colour pattern. It is an incipient heteronereid female with enlarged eyes and swimming setae developing in setigers 16–35.

The prostomium (fig. 2*a*) is broadly oval with short broad palps but the antennae and tentacular cirri do not present any features of special interest. The anterior pair of eyes is greatly enlarged but the posterior pair is normal. The proboscis (fig. 2*b* and *c*) when dissected proved to have very pale, poorly chitinized paragnaths difficult to see; in particular some doubt must remain as to the presence of paragnaths on groups VI, VII and VIII. Group I = 1, II = 3–4, III = 4, IV = 5–6 in a wedge, V = 0, VI = 2 or 3 (very faint), VII + VIII = a single row of about 4 very pale points.

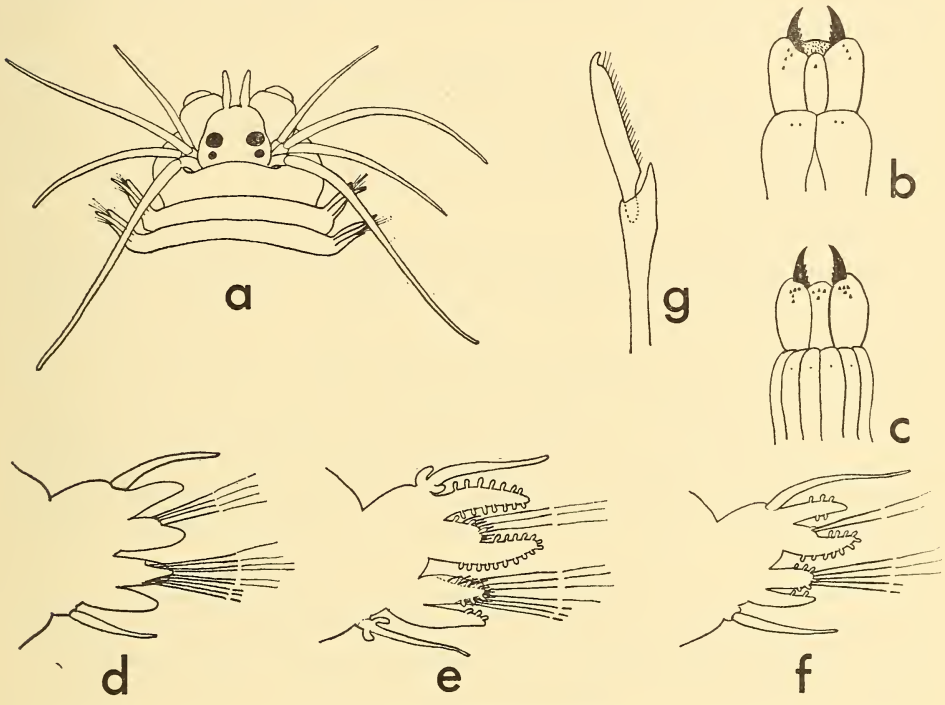

Fig. 2. *Nereis* (*Neanthes*) *papillosa*.
(*a*) Head. (*b*, *c*) Dorsal and ventral views of proboscis. (*d*) 10th foot. (*e*) 25th foot. (*f*) 45th foot. (*g*) Posterior neuropodial falciger.

Anterior feet (fig. 2*d*) have conical lobes and a rather short dorsal cirrus. There are only two notopodial lobes but the notosetae arise from a dorsal bulge on the inferior lobe so that the notopodium might be said to have 2½ lobes. The neuropodium is normal. In the middle of the body (fig. 2*e*) there is a marked gap between the notopodium and the neuropodium, and all the lobes bear numerous club-shaped papillae. It is unlikely that these papillae are modifications due to the heteronereid phase for this does not occur in other species and in any case the papillae continue on the posterior feet where swimming setae are not developed. The posterior feet (fig. 2*f*) have long dorsal

cirri without any basal flaps, the parapodial lobes are slender and the papillae are less numerous.

The notosetae are homogomph spinigers throughout, there being no notopodial falcigers. The neurosetae include the usual homogomph and heterogomph spinigers and heterogomph falcigers (fig. 2*g*). These have rather long straight blades. In middle segments the tips of the developing swimming setae project from both setigerous lobes.

There is a general similarity between *N. kerguelensis*, *N. unifasciata* and *N. papillosa*. All have two notopodial lobes in anterior feet and a single row of paragnaths on groups VII + VIII. *N. papillosa* is unique in having papillae on the parapodial lobes.

Family **Nephthydidae**

Nephthys (*Aglaophamus*) *macroura* Schmarda 1861

Aglaophamus macroura (Schmarda), Hartman 1950, p. 118.
Nephthys (*Aglaophamus*) *macroura* Schmarda, Day 1960, p. 327.

Records: WCD 73 (1).

Notes: The single specimen is a juvenile 25 mm. long and its identification is therefore doubtful. The ventral cirrus on setiger 1 is large but the dorsal cirrus is rudimentary. Cylindrical, involute branchiae appear on setiger 3. An average parapodium from the middle of the body has conical setigerous lobes but lacks presetal lamellae on both rami. The postsetal lamella of the notopodium is divided into a large rounded superior part and a small inferior part. The notopodial cirrus is well developed, tapered and rounded in section, not flattened and blade-like. The postsetal lamella of the neuropodium is auricular and just exceeds the setigerous lobe. Anterior setae are normal laddered capillaries and posterior setae are long, fine and minutely denticulate on one side.

The absence of a dorsal cirrus on setiger 1 and the early appearance of the branchiae suggest *N. macroura*, but the structure of the feet, particularly the notopodial cirrus, is closer to *N. malmgreni*, which is also a deep-water species. Possibly the early appearance of the branchiae is a juvenile character.

Nephthys hystricis McIntosh 1900

Nephthys hystricis McIntosh, Fauvel 1923, p. 373, fig. 146 *a–e*.

Records: WCD 73 (1).

Notes: The single specimen is a juvenile and is referred to *N. hystricis* with hesitation.

Nephthys (*Nephthys*) ? *paradoxa* Malmgren 1874

Nephthys (*Nephthys*) ? *paradoxa* Malmgren, Day 1960, p. 327.

Records: Station A.315 (1)—S.A. Museum Register No. A.19965.

Notes: The specimen is broken and badly preserved. While it is similar to the one reported by Day, 1960, the identification must remain uncertain. A large parasitic nematode lies in the body cavity.

Family **Eunicidae**

Sub-family **Onuphidinae**

Hyalinoecia sp.

Records: WCD 73—15 specimens and 3 juveniles.

Notes: These specimens approach *H. bilineata* var. *rigida* as described by Fauvel, 1923, p. 424, but differ in several respects. They are encased in fragile tubes covered with detritus quite unlike the tough quill tubes of *H. tubicola*, the only species of the genus previously recorded from South Africa. The two frontal antennae are rather broad and the five occipital antennae are mounted on 4-ringed ceratophores, each ring having a projecting lateral lobe. There are no eyes and no tentacular cirri. Conical ventral cirri are present on the first 3 setigers. Gills start on setiger 9 and continue for about 12 segments. Each gill is a small inconspicuous filament no larger than the dorsal cirrus. The hooded hooks of setigers 1 and 2 are unidentate and very faintly pseudo-compound.

I know of no species of *Hyalinoecia* with branched ceratophores to the occipital antennae, but similar structures do occur in the genus *Epidiopatra* and it is just possible that all these specimens may develop spiral gills at a later stage. For this reason they have not been named as a new species.

Sub-family **Lumbrinerinae**

Lumbrineris magalhaensis Kinberg 1864

Lumbrineris magalhaensis Kinberg, Day 1960, p. 362, fig. 12 *h–j*.

Records: Station A.189 (1)—S.A. Museum Register No. A.19769.

Lumbrineris brevicirra (Schmarda 1861)

Lumbrineris brevicirra (Schmarda), Day 1961, p. 361, fig. 12 *e–g*.

Records: Station A.193 (1)—S.A. Museum Register No. A.19781.

Family **Paraonidae**

Paraonis gracilis oculata Hartman 1957

Paraonis gracilis oculata Hartman 1957, p. 331, pl. 44, figs. 1–3.

Records: WCD 74 (3 juveniles).

Notes: All three specimens are broken but probably measured less than 8 mm. when complete. The prostomium bears a pair of subdermal eyes and there are only 3 pairs of gills on setigers 6, 7 and 8. Posterior neurosetae include 1–2 capillaries and 2–3 short stout acicular hooks with curved, sigmoid shafts and blunt unidentate tips. There is no trace of an arista. Ehlers (1913) recorded *Aonides gracilis* (now recognized as a synonym of *Paraonis gracilis*) from False Bay but did not mention whether his specimen had eyes or not.

Aricidea suecica simplex var. nov.

(Fig. 3 *a–b*)

Records: WCD 73 (3).

Description: All three specimens are broken and only one is sufficiently long to identify the posterior neurosetae. It has been chosen as the holotype. It is 8 mm. long with 65 segments and probably represents about half of the original worm.

The prostomium (fig. 3*a*) is short and broad with well-marked nuchal slits, a very short median antenna, but no eyes. The anterior region is flattened dorsally and the posterior region rounded. Branchiae start on setiger 4 and continue to setiger 15 so that there are 12 pairs in all. Each gill is stout with a pointed tip and just meets its fellow in the mid-dorsal line. All gills are subequal except for the last 2–3 which are small. The postsetal notopodial lobe of setiger 1 is a small papilla but later ones soon increase in size and in the branchial region they are 2/3 the length of the gills. The neuropodia are merely low

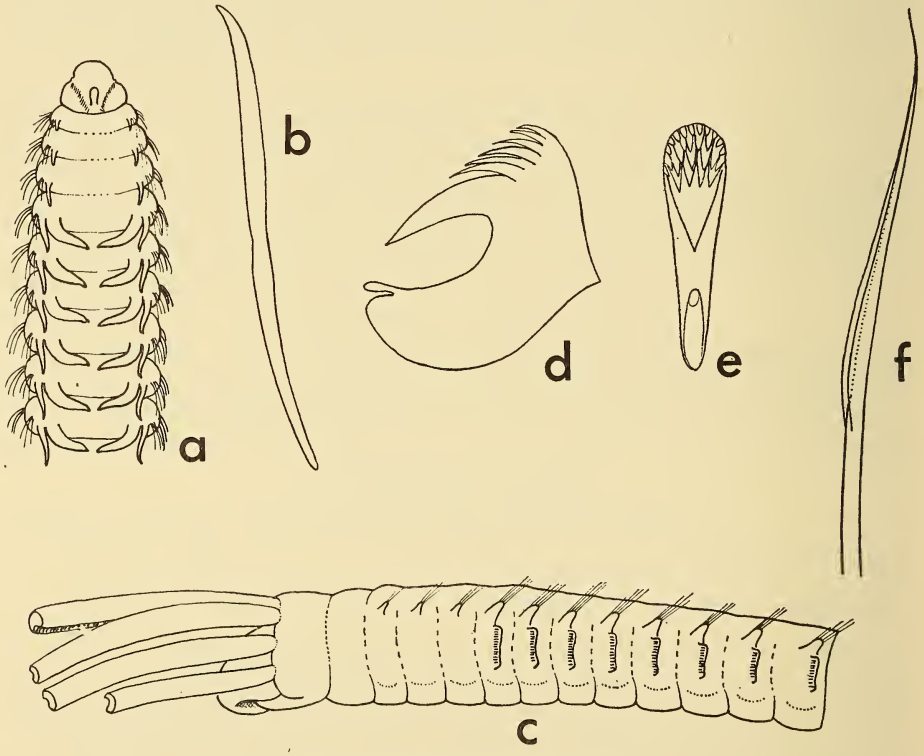

Fig. 3. *Aricidea suecica* var. *simplex*.

(*a*) Head and anterior segments. (*b*) Posterior neuropodial hook. *Streblosoma abranchiata:* (*c*) Lateral view of head and anterior segments. (*d*, *e*) Lateral and edge-on views of thoracic uncinus. (*f*) Thoracic notoseta.

lateral ridges. Anterior notosetae and neurosetae are similar. Each is a curved capillary with a slender blade.

The posterior region as defined by the appearance of the neuropodial hooks starts on setiger 24. The segments are rounded in section, each with a slender postsetal notopodial lobe. The posterior notosetae are 2–3 fine capillaries but the neurosetae are more numerous. Each neuropodium bears about 5 long slender capillaries and an increasing number of hooks; at first there are only 1–2 but later as many as 10. The hooks (fig. 3*b*) are all similar from segment 24 onwards. Each is sigmoid in shape with a shaft which is constricted where it leaves the surface and a curved unidentate tip which never has any prolongation or sign of an arista.

The stem form *A. suecica* Eliason 1920 from northern Europe is described as having an arista or slender blade projecting beyond the apex of the neuropodial hook in the middle of the body, but this is lost later and posterior neuropodial hooks are sigmoid and unidentate. There is also a pair of eyes. This is a new record for South Africa.

Family **Spionidae**

Prionospio steenstrupi Malmgren 1867

Prionospio steenstrupi Fauvel 1927, p. 60, fig. 21 *f–i*.
Prionospio malmgreni var. *dubia* Day 1961, p. 489, fig. 3 *j–n*.

Records: WCD 73 (1).

Spiophanes soderstromi Hartman 1953

Spiophanes soderstromi Hartman 1953, p. 41, fig. 14 *a–c*. Day 1961, p. 484.

Records: WCD 74 (1 juvenile).

Family **Disomidae**

Poecilochaetus serpens Allen 1904

Poecilochaetus serpens Allen, Fauvel 1927, p. 67, fig. 23 *a–m*. Day 1961, p. 497.

Records: WCD 73 (1 juvenile).

Family **Maldanidae**

Maldanella fibrillata Chamberlin 1919

Maldanella fibrillata Chamberlin 1919, p. 413, pl. 72 figs. 1–6, pl. 73 figs. 1–2.

Records: Station A.190 (5)—S.A. Museum Register No. A.19773.

Description: The 5 specimens were encased in fragile tubes covered with grey silt. Their bodies were broken and the number of segments is unknown. Head with an oval cephalic plate inclined at 45° to the axis of the body and surrounded by a high, smooth rim which is continuous apart from a small anterior gap occupied by the prostomium. No eye spots. Nuchal grooves straight and half the length of the cephalic plate but their anterior ends are

continuous with a streak which curves sharply back around the inside of the rim. Anterior segments short, hardly longer than broad, and without collars but with glandular rings on the first 7. Middle segments long but the posterior ones shorter and sausage-shaped. 3 achaetous preanals which decrease in length. The last is not very distinct and is situated at the base of the pygidial funnel which is rimmed with 30 equal anal cirri. Anus on a pleated cone without a marked ventral valve.

Setiger 1 with notosetae only. Setiger 2 with notosetae and 15–20 neuropodial hooks. Later segments similar but with more hooks. The notosetae are all narrow-winged capillaries, some long and some short. The hooks on setiger 2 have a vertical series of 2–3 teeth above the main fang while those of later segments have 3–4 teeth.

These characters agree with Chamberlin's description and it may be added that his original specimen was complete and measured 70 mm. by 5·5 mm. and had 19 setigerous segments.

M. fibrillata is a rare abyssal species from the Pacific off the coast of Panama. The only species of *Maldanella* known from South Africa is *M. capensis* Day which has 4 achaetous preanals (not 3) and only 2–3 neuropodial hooks on setiger 2 (not 12 or more).

Lumbriclymene minor Arwidsson 1906

Lumbriclymene minor Arwidsson: Fauvel 1927, p. 196, fig. 68 *k–q*.

Records: Station A.315 (1)—S.A. Museum Register No. A.19966.

Notes: The tube is free and encrusted with foraminiferan shells. The body is 20 mm. long with 19 setigers and 3 indistinct preanals in front of the pygidium. The anterior end is bluntly rounded without a well-defined prostomium, cepalic plate or crest. Even the curved nuchal grooves are poorly marked. The 19 setigers do not differ greatly in length, each being about three times as long as broad. The anterior margins of anterior setigers are slightly glandular but the intersegmental constrictions are not deep and there is no sign of collars. The three achaetous preanal segments are short and poorly marked with indistinct lateral tori. The pygidium is blunt and slightly swollen with a dorsal anus. The ventral valve is very large and is continuous with the bluntly conical posterior end. The ventral surface of the pygidium is somewhat flattened and slopes upwards. There are no anal cirri. The notosetae are all winged capillaries, some smooth-edged and some striated towards the distal end. Each of the first 4 setigers bears a single stout, smoothly pointed, acicular seta. Subsequent neurosetae are rows of about 6 hooks, each with a vertical series of 4 teeth above the rostrum and a few lateral denticles. Below the rostrum is a short 'neck' and then a marked swelling in the shaft.

This is a new record for South Africa. Its pygidium differs from *L. cylindricauda* Sars which has recently been found in shallow water in this area (unpublished record). In *L. cylindricauda* as the name implies the posterior end is

cylindrical with a terminal anus; in *L. minor* the anus is dorsal and the ventral surface of the pygidium is flattened and slanting.

Family **Sabellariidae**

Phalacrostemma elegans Fauvel 1911

Phalacrostemma elegans Fauvel 1914, p. 270, pl. 24, figs. 1–16.

Records: Station A.315 (1)—S.A. Museum Register No. A.19967.

Notes: The single specimen is poorly preserved and lacks a tube, but the available characters, in particular the setae, agree completely with Fauvel's description.

The opercular lobes are separate and each bears a single ring of long, tapered and spirally serrated 'paleae' with about 3 stout acicular setae at the base. At the junction of the opercular lobes there is one pair of hooks dorsally and a single median tentacle ventrally. The buccal tentacles and palps have disintegrated. There are 4 parathoracic segments with oar-shaped setae. There are at least 12 abdominal segments bearing uncini and capillaries, but the gills have been lost and the posterior end has disintegrated so that the exact number of segments and details of the caudal region are unknown.

This is a new record for South Africa. Fauvel's original specimen came from 1,968 metres off Madeira.

Family **Ampharetidae**

Neosabellides cf. elongatus (Ehlers) 1913

[?] *Sabellides elongatus* Ehlers 1913, p. 551, pl. 42, figs. 1–6.
[?] *Neosabellides elongatus* (Ehlers), Hessle 1917, p. 104. Monro 1936, p. 175.

Records: Station A.319 (3)—S.A. Museum Register No. A.19968.

Description: The 3 specimens are encased in characteristically slender and closely ringed brownish mud tubes. The body is slender, slightly swollen anteriorly, about 30 mm. long and 1·2 mm. wide at the broadest part of the thorax.

The prostomium is bluntly spade-shaped without lateral grooves but has a single pair of eyes. The tentacles are largely retracted and lateral pinnules are poorly marked. Segment II is narrow but unusually distinct. Segment III lacks paleae and is fused to segment IV which bears a small bundle of notopodial capillaries. Segments V and VI also bear notopodial capillaries but no uncini. Segment VII and the next 10 segments bear both notopodial capillaries and neuropodial uncini so that there is a total of 14 segments with notosetae of which the first three lack uncini. Segment III bears two groups of 3 smooth, tapered gills which project well beyond the prostomium. The two groups of gills are well separated in the dorsal median line and each group is arranged in a transverse row, but there is no obvious branchial ridge nor is there any sign of nephridial papillae between the two groups of gills. The first

5 thoracic segments are short, each being about three times as broad as long, but subsequent segments become much longer until in the middle of the thorax each segment is three times as long as broad. The length of the segments affects the glandular ventral pads which are recognizable on all except the last thoracic segment. Anterior ones are well marked and contiguous, but posterior pads are poorly developed and well separated from one another. The abdomen consists of 32 segments. Each uncigerous pinnule is a small, roughly square lateral lobe with a small papilla above the row of uncini. The pygidium bears a circle of 6–8 tapered anal cirri and a larger pair of ventral lobes.

The notosetae are smooth-winged capillaries. Thoracic uncini bear 8 teeth in two vertical rows of 4.

These South African specimens agree with Ehlers's original description of *Sabellides elongatus* from Antarctica in regard to most characters, but the first three setigers lack uncini whereas Ehlers states that only two anterior setigers lack uncini. Moreover Ehlers found only 19 abdominal segments or less, whereas these South African specimens have over 30. It may be that Ehlers (1913), Hessle (1917) and Monro (1936), who all describe material from the Antarctic or sub-Antarctic, missed the first bundle of notosetae, which is small and very close to the second, but for the present the identity of the South African specimens must remain doubtful.

Family **Terebellidae**

Amphitrite cirrata Müller 1771

Amphitrite cirrata Müller, Fauvel 1927, p. 251, fig. 86 *i–o*.

Records: Station A.319 (6)—S.A. Museum Register No. A.19971.

Notes: The present material agrees perfectly with Fauvel's description. There is a general resemblance to a species of *Thelepus* since the three pairs of gills are filamentous, with the right and left tufts well separated. Each tuft arises from a basal stump. There are 17 thoracic segments starting on segment 4 (3rd branchiferous), each bearing a bundle of notopodial capillaries with minutely denticulate tips. There are small lateral lobes on segments 2, 3 and 4, and 12 ventral pads. Uncini start on segment 5 (setiger 2) and are arranged in double rows after the first few. Each uncinus is avicular with a close-set cap of denticles above the main fang. The denticles are irregularly arranged but approximate to the formula: MF : 4–5 : 5–6 : 8–10 : 10–15.

The abdomen is broken in every specimen but has at least 20 segments with square uncigerous pinnules.

This species is well known from high latitudes in the North Atlantic. Fauvel (1914) recorded *Amphitrite cirrata profunda* from abyssal depths off the Azores, but as he says himself it is very doubtfully distinct from the stem form.

This is the first record of the genus *Amphitrite* from South Africa.

Pista cristata (Müller 1776)

Pista cristata (Müller), Fauvel 1927, p. 266, fig. 93 *a–g*.

Records: Station A.317 (1), A.319 (6)—S.A. Museum Register No. A.19970.

Notes: These specimens agree well with Fauvel's description. There are 2 pairs of gills, each with a long stem and a terminal pompon of spirally arranged filaments. There are 3 pairs of lateral lobes; the pair on segment 2 is small and continuous across the ventrum, the pair on segment 3 is large and lateral in position, and the pair on segment 4 is small. 17 thoracic segments bear bundles of smooth-winged notopodial capillaries. The first four rows of uncini have a close-set crest of denticles, short 'necks' below the main fang, rounded bases and well-developed shafts; later uncini have no shafts.

P. cristata var. *capensis*, reported by McIntosh (1925) from Portuguese East Africa, was said to have a single tooth above the main fang. The type has been lost. *P. brevibranchia* Caullery, reported by me (Day, 1951 and 1957) from Portuguese East Africa, may be distinguished from *P. cristata* by the shortness of the branchial trunks and the uncini. Only the first row of uncini has well-developed shafts, the neck of the uncinus is longer and the base larger and more triangular.

Terebellid— ? gen. et sp.

Records: Station A.316 (12)—S.A. Museum Register No. A.19972.

Notes: The specimens are very soft and poorly preserved, and some of the characters are doubtful. They are obviously different from the other species recorded here but cannot be identified with certainty.

An average specimen is about 50 mm. long and 4 mm. wide across the anterior thorax. The collar-shaped tentacular lobe bears numerous orange tentacles. No gills were found; it is possible that they have been lost, but there was no clear sign of scars. No lateral lobes were visible. There are 17 bundles of notosetae starting on segment 3 or possibly 4. The notosetae are of two lengths, both with smooth, broad wings and *very* long attenuated tips which appear to be quite smooth. Uncini start on setiger 2 (i.e. segment 4 or 5), and on the posterior thorax they are arranged in double rows. The thoracic uncini are all similar, each being avicular with a crest of numerous irregularly arranged denticles above the main fang. There are at least 12 ventral pads. The abdomen consists of 40 or more segments bearing short uncigerous pinnules.

These specimens belong to the sub-family *Amphitritinae* as shown by the arrangement and structure of the uncini. I know of no species which has smooth-bladed notosetae and lacks gills. However, a better preserved specimen is necessary to confirm that gills are really absent.

Streblosoma abranchiata n. sp.

(Fig. 3 *c–f*)

Records: Station A.190 (numerous tubes and specimens)—S.A. Museum Register No. A.19770.

Stations A.315 (2), A.319 (Common) and A.321 (1)—Register No. A.19969.

Description: The type material is No. A.19770 from Station A.190. The tubes are long, fragile and heavily encrusted with foraminiferan shells. The worms themselves are poorly preserved, but judged by the size of the larger fragments the body was cylindrical, rather slender and about 30 mm. long by 1·5 mm. wide with over 60 segments.

The tentacular lobe (fig. 3*c*) is short and collar-like, with about a dozen long, grooved tentacles. There are no eye-spots. An oral hood overhangs the ventral mouth but the lower lip is small. There are no lateral lobes on anterior segments and no sign of gills although all specimens were carefully examined. The first bundle of notosetae is on segment 2 and there are at least 19 segments with notosetae. The longest anterior fragment had disintegrated at this point but posterior fragments of 20 or more uncigerous segments are without notosetae. The notosetae (fig. 3*f*) are smooth-winged capillaries. Uncini appear on setiger 4 (segment 5). They are arranged in single rows throughout and borne on poorly marked uncigerous ridges even in abdominal segments. Each uncinus (fig. 3*d* and *e*) has a close-set cap of denticles above the main fang. These are irregularly arranged but approximate to the formula MF: 4–5 : *ca.* 8 : *ca.* 12. The base of the uncinus has the characteristic clog-shape of the sub-family *Thelepinae* with a forwardly produced rounded prow and a well-marked dorsal button.

All other species of *Streblosoma* have at least 2 pairs of filamentous gills, and the present species was assigned to the genus with some hesitation; but it obviously belongs to the *Thelepinae*, and the segmental arrangement of the setae and the lack of lateral lobes on anterior segments agree with *Streblosoma*.

Streblosoma chilensis (McIntosh 1885)

Euthelepus chilensis McIntosh 1885, p. 467, pl. 51 figs. 4–5, pl. 28A figs. 14–15.

Records: WCD 73 (1 juvenile).

Notes: The genus *Euthelepus* was erected by McIntosh 1885 for two species, *E. setabulensis* and *E. chilensis*. The types of both have been re-examined in the British Museum. *E. setabulensis*, which has page priority, has been accepted as the type species by both Fauvel (1927) and Hartman (1959). It has 3 pairs of filamentous gills on segments 2–4 and notosetae from segment 3 (not segment 2 as suggested by McIntosh). Uncini start on segment 5 (setiger 3). Lateral lobes are present on segments 2–4. *E. chilensis* has 2 pairs of simple filamentous gills on segments 2 and 3. Notosetae start on segment 2 (the first branchiferous) and uncini on segment 5 (setiger 4). There are no lateral lobes on anterior segments. It thus differs from *E. setabulensis* in the possession of notosetae on segment 2 and in the absence of lateral lobes. It should thus be transferred to the genus *Streblosoma*.

The single South African specimen is a juvenile but agrees in all essential respects with McIntosh's type from abyssal depths off Chile.

Terebellides stroemi Sars 1835

Terebellides stroemi Sars, Fauvel 1927, p. 291, fig. 100 *i–q*.

Records: WCD 73—2 juveniles.

Summary

Twenty-eight species of Polychaeta are described from abyssal dredgings west of Cape Town. The collection includes 4 new species and 11 new records for this area. Only 4 of these species are known from depths less than 100 metres; the rest are widespread at abyssal depths. There is no obvious Antarctic component.

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